

GEOGRAPHIC CONDITIONS, INFLUENCES, CONTROLS.*

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By practice and now by definition the field of Human Geography is the relationship between the man and his environment. Many types of terms are employed to express and describe the nature of these relationships, such as conditions, influences, controls, principles and laws. Man is always among conditions. In some circumstances he is influenced by them. To these influences he responds at times by adjusting or adapting himself and his activities, at other times by modifying the conditions to suit his needs. It may be in more circumstances than we are willing to admit there is a real geographic determinism, so strong that a people cannot escape it, an absolute control. This paper reviews many terms used in the literature of the last twenty-five years, discusses and strives to evaluate them.

The works of many authors, mostly my personal friends, have been read and from their books and papers excerpts have been taken. From the nature of the case the setting could not be included with the sentence or phrase used in this paper. Desire to represent exactly what the book said has been uppermost in my mind. If misrepresentations have in the least degree entered anywhere, apologies are offered and forgiveness asked. No other way to make such a study as this could be discovered and yet the need for such a study has impressed itself upon my mind for a number of years. Therefore I have

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proceeded for my own benefit and now for the benefit I trust of all of us who read the paper. Let us here take stock together of our own product and see if we can improve it in any way.

As to method of work, the various phrases used in the literature read, which express the relationship between man and his surroundings were jotted down with the reference. These terms and phrases were then grouped under several headings which now appear as headings in the paper. These brief quotations are the basis for the paper. By italicizing the significant word or phrase it is easier to pick it up quickly. Comments weave the series together and conclusions are drawn from the study.

GEOGRAPHIC CONDITIONS.

Jones and Whittlesey (1) raise three questions. (1) Are the economic activities of a country *determined* by the natural environment of the region? (2) Are they *influenced* by the environment? (3) Are they *closely related* thereto? "Determine" is a good word because every economic activity is not only influenced but is determined. If it is not determined, it could not be. The question then is, by what is it determined? It were well then to answer the first question by saying the physical environment is significant in *helping to determine* the economic possibilities and activities of a region. There are other factors.

If the soil, climate and topography help to determine, they do have an influence and we can answer the second question—yes. Further, if they influence the economic activities so far as to help determine what they shall be, they must be closely related. The last question then could always be answered in the affirmative, the middle one no doubt is truly answered the same way, but the first as it stands is not ready for an unqualified affirmative.

It would be fair to say that every human activity has Geographic conditions. On the same page as the questions may be found another statement. "The earth is the stage on which men live and work." But the authors do not consider the man passive to the stage, for they continue, "the broad limits within which life functions therefore are set by the natural environment. That changes but little from generation to generation even though succeeding generations make very different uses of it. But all the uses are within the limits.

Man may make and does make a choice as to how his economic life is ordered within the limits set. Sometimes he chooses wisely, sometimes not. With different knowledge and ideals, different stages of culture and needs, he chooses to make different uses."

Would it not be wise then for man to know his geography? To be as familiar as possible with the capacities and limits of his stage that he may avoid as many mistakes (bad choices) as possible?

It has been said that geography deals with the natural environment as related to man: some say as the home of man. Smith (2) would say study human activities as *affected* by the earth, rather than study parts of the earth as they *affect* human activities. Febvre (3) points out that the older historians pictured man, armies, and nations as *always* enduring and *never* acting, but joins with the others in these modern studies in believing that there are relations between man and the environment which the stage idea and that of simple conditions cannot interpret.

INFLUENCES AND RESPONSES.

If there are influences they must be met by response or resistance. Huntington and Williams (4) recognize influences. We read, "the aim is to give a clear conception of the way in which geographic conditions influence the products of a region, the capacity of the people, the direction in which their activities are turned, and the nature and extent of their business relations with other regions." Johnson (5) discusses in each chapter a great manoeuver on some front and "deals with the more striking surface features *affecting* military operations," "emphasizes the *influence* of land forms." He calls this influence a *relationship* on the previous page.

Peattie (6) says "the relations are essentially environmental *influences*." "These types of factors are the ones that *influence* the value of fields and their height limit," p. 362. "People *react* differently to the same influences during different stages of their culture or civilization," p. 6. Huntington and Cushing (7) assert "plants, animals and soils *influence* man," "man *responds* to geographic surroundings." "Man is constantly learning to overcome the influence of unfavorable circumstances and is even causing them to help him." Davis (8) speaks of *responses*, but they are not to *influences*, rather to *controls*.

Smith (9) raises the question, "How does North America *influence* man as he makes his living and lives his life upon it?" It takes the book to answer, and he is pretty consistent in sticking to the term or the spirit of the term *influence* all through.

Ridgley (10) uses the word *influence* occasionally, but leans to the other side—the *response* idea, and uses much more freely the word "*tends*." "Cities *tend* to develop wherever there is a break in transportation," p. 10. "Where coal and iron ore are in different regions the ore *tends* to go to the coal," p. 123. He seems to follow Cooley (11) in this, for Cooley says, "population and wealth *tend* to collect wherever there is a break in transportation." This term becomes monotonous but has the advantage of indicating the direction of the influence. Fairbanks (12) does not use the word *influence*, but *responses* and *relationships*. He says, "*relationships* is the unifying idea at the root of all true geography," "Method of interpretation is the essential thing," "Pupils can reason out life *responses* to physical environment in other parts of the world after knowing similar *relations* in the home region."

Miss Newbigin (13) says, "the necessity for finding the metals best suited to his use . . . has always *influenced* the movements and the settlements of men." While on the same page she speaks of the "distribution of minerals being of great importance in *determining* the distribution of man," she has no spirit of geographic determinism, but recognizes the relationships as influences. In another book she says, "The significance of (geography) lies not in separate facts . . . but in that they have to be considered in their inter-relations. . . . Students cannot acquire too soon the habit of linking the great facts of climate and relief with the life of man." She adds, p. 19, "Human geography may be defined as the study of the . . . *action and reaction* between man and nature."

RELATIONS AND INTER-RELATIONSHIPS.

Miller and Parkins (15), p. XII, reads, "Geography as relationships between natural environment and life," "Geographic environment does not explain everything," "Probably no one thing (cause or factor) explains any particular phenomenon in life." Here as in many references "relation" is used instead of influence, but it is about as non-committal. It may be a relation expressed in man's response or adjustment to the

conditions or it may be a relation expressed in man's modification of the environment. It is indefinite.

Jefferson (16) makes it clear in a number of illustrations that the same place has called forth very different *responses* from different people at successive times, thus illustrating interrelations and at the same time the fact that the mind of man has something to do with the nature of the response. For example, he points out that the American Indian in the Great Lakes region was essentially a fisher and hunter, the Frenchman was a hunter and a missionary, the mixed Europeans later were general farmers, raised corn and built cities, but he does not tell us the nature of the relationship. Was it helpful to man, or otherwise? Obviously each man used what he wanted in the way he wanted to; but neither Jefferson nor Vidal de la Blache, who used the same illustration, points out how the region helped the man, presented obstacles to him and spurred him on to his characteristic activity. One must not be satisfied with simply discovering influences, or relations. He should show how the conditions are related to the man and how the man is related to the conditions.

Again on p. 32 the same author finds the North Central Plains of Europe supporting lumbermen in the middle ages after a reign of huntsmen and fur gatherers, then producing great crops of wheat, oats, potatoes and rye for the agriculturists. While all this continues in the plains, man has recently tapped the mountains for mineral wealth and now the plains support great industrial cities. But in all the page the only word stating the nature of any relationship is "*prevents*," referring to mountains not high enough to keep out roads and railroads. In this case one can easily infer that the relationship in these latter days is considered to be quite *advantageous* to man.

In her preface Newbigin (14) reads, "the relation between groups of men and the character of the lands in which they have established themselves." This is the general statement introducing the later studies where the nature of the relations is very adroitly disclosed.

Brunhes (17) says, "Human Geography is a study of the relationships between human activities and the phenomena of Physical Geography . . . soil, climate, circulation of water, vegetation and animal life on the one hand, human establishments, ways of travel, cultivation, breeding, exploitation

of natural resources on the other are united by bonds of causality more or less apparent by connections more or less close. . . . " Again, "Human phenomena which *inscribe* themselves on the soil, and which *modify* nature at the same time they *are modified* or brought about by nature." These quotations are both from the preface. They are the general statements, the broad undisturbed generalizations. In the body of the book where specific regions or types of houses are discussed the relations are much more specifically expressed.

Jones and Bryan (18), p. 3, assert, "we must grasp the significance of this interrelation of man and his environment," but they speedily slip far beyond the zone of influence into the field of determinism and control to be discussed below.

Unstead and Taylor (19) start well. In the preface we read, "The treatment is as far as possible causal and no facts are given without explanation." This is certainly a recognition of relationship in geography. In the text, facts of physical geography are often very well explained, but it is quite difficult to find real geographic material in the human relations, even through large sections of the book. Facts of environment are stated, then facts of ontography, but the nature of the relation is too often left to inference.

Febvre (3), p. 361, is clear cut. "What are the *relations* between human societies of today and their present geographical environment? That is the fundamental problem and the only one which human geography sets itself." And one has but to turn to his inspiring chapter on Communications to discover how lucidly he interprets the relations into "*forbidding*," "*attractive*," "*inhospitable*," "*hindering*" and "*favorable*" relations. He rarely leaves one in any doubt in specific cases what the real nature of the relationship is.

CONTROLS AND GEOGRAPHIC DETERMINISM.

In working over the literature for this point of view surprises have been found. It is no more than fair to some authors to say that were they writing today they probably would couch their ideas in different words. It is also true that *controls* and *dominations* are in degrees of intensity.

Johnson (5), p. III, "To emphasize this interesting relationship between inanimate nature and the Science of War" is followed by, p. 1, "The violation of Belgian neutrality was pre-determined by events which took place in Western Europe

several million years ago. . . . nature was fashioning the scenery which was not merely to serve as the setting for the European drama, but was, in fact, to guide the currents of play into blackest tragedy." "If . . . Germany would not have been tempted to commit . . . The surface configuration of Western Europe is the key to events in the theater of war." This author in succeeding paragraphs gives due credit to ambitions, ideals, and covetousness and thereby suggests that the trouble was not wholly in the topography.

Ratzel is perhaps the strongest advocate of Geographic determinism, but his work and that of some of his predecessors may be excused in part by the lack of knowledge in the science. No quotations will be made.

Vidal de la Blache (20) says, p. 17, "It most often happens, with slight obstinate exceptions, that the *sovereign* influence of environment has *forced* all Europeans into similar occupations and customs." "Some societies have long been part of the environment, but others are in process of formation, continuing to recruit members and to be modified day by day. Upon such in spite of all they can do, surrounding conditions leave their impress, and in Australia, at the Cape, or in America these people are slowly becoming saturated with the influences of the regions where their destinies are to unfold." Again on pp. 29-30, "Increase of population always encounters serious obstacles, many of them insuperable; . . . some of them are superabundance of vegetation and insect life or insufficiency of moisture or heat." Perhaps this is not meant for absolute determinism and should simply be dated to save it. 'Insuperable' today is a challenge and may not be at all insuperable tomorrow. In fact this geographer, p. 20, gives us a redeeming picture. "The task of colonization—glory of our age—would be only a sham if nature set definite rigid boundaries instead of leaving a margin for the work of transformation or separation which it is man's power to perform." This introduces another point of view less absolute, p. 19: "Man is at once both active and passive," "Relation takes the form of man's transforming the environment."

Brunhes (21), p. 58, writes, "According as human groups are placed in this or that geographic setting they are *led* or *impelled* to grow certain crops, here horses, there palms and rice, here cattle and there sheep; and each type of activity brings about its own type of social organization." Perhaps

he meant more of a *control* existed than is suggested by the translation "led," but if so it would hardly be in keeping with his other interpretations.

Miller and Parkins (15), p. 55, reads, ". . . future national leadership in air and sea may be *determined* by the possession of fuel oil. . . ." This factor may help to determine.

But Jones and Bryan (18) use the word *control* even more than these American and French authors. In preface, p. VII, "author's aim has been to indicate the nature of the controlling geographic facts." p. V, "The peopling of the continent by Europeans began so early as to suffer a very complete measure of geographical control." "In every stage of development of these new lands (America) the shape and size, the winds and currents, of the Atlantic ocean have been *controlling* factors and it is to our purpose to study the nature and operation of these *controls*."—p. 3.

"Geographic factors which were *limiting* Spanish so largely to Southern Mexico." "The *dominating* factors here are very simple."—p. 31. "Position of early French settlements, in North America, were *largely controlled* by the nature of the St. Lawrence and Mississippi rivers."—p. 42. "Geographic conditions obtaining in New France very *largely controlled* the nature of settlement."—pp. 54-5. "In spite of . . . (several items mentioned) they (New England colonists) followed a mode of economic development *almost completely controlled* by their geographic environment."—p. 66.

Davis (22) wrote, "The fact that Celtic is still spoken in rough, distant, or isolated parts of Great Britain because of their roughness, distance and isolation is a local example of an important class of relations between controls and responses." This quotation is given as an illustration of the "third position which would treat ontography as thoroughly as physiography and would search for all the geographical relations of physiographic *controls* and ontographic *responses*." Subsequently the author records that he has adopted this third position.

Huntington and Williams (4) have several paragraph heads in *control* terms. p. 19, "How relief *controls* the nature of the products." p. 98, "How physical conditions *determine* the detailed location of trade routes." Also sentences in the paragraphs under the headings, "After general location has been *determined* by centers of human activity, details are *determined* by physical conditions," and "Since relief has a *dominating*

influence upon transportation it seems to stand second only to climate in its *influence* upon man's activities."—p. 42. "Factors which *limit* the distribution of the more complex forms of manufacture."—p. 212.

Von Engeln (22) writes, "The *dominance of environmental control* has not been generally accepted as an adequate foundation for a complete theory of history." "The book is written not so much to show that human organization and development *have been determined* by geographic conditions as to insist that in future they *should be*." Smith (2), p. 4, tells us, "To an extent little appreciated the environment *makes* the race. It is a common mistake of the historian to give the idea that people have certain qualities inherently. It is much more correct to say that primitive or savage peoples are primitive or savage because of the niggardliness or peculiarities of nature's gifts. The environment . . . has given the qualities." But the strongest statement of control, the best example to date is the testimony of a lecturer on problems arising from the great war. He said, "but Germany *had* to do it, her geography *impelled* her! It was necessity! necessity!! necessity!!!" This was not said in any heated debate or flight of oratory, but in a quiet conversation in my laboratory while maps were being selected for his use.

Bowman (23), p. 3, gives a suggestion on this point of *control*. "Thus plants are thought to have a certain physiologic plasticity or power of self-regulation that tends to adjust them to a new environment, a feature that goes far in explaining the *absence of rigid control* of physiographic conditions over forest distributions, although an *approximate control* is often manifested." And Von Engeln (22), p. VI, finds a something somewhat akin in man. "History in sum is the record of man endowed with a free will, refusing at first to conform to his environment and hence being buffeted about by nature until he comes to terms with her."

Jones and Whittlesey (1), p. 4, "Man may make and does make a choice as to how his economic life is ordered." p. 3, "Such knowledge (geographic) is inherently interesting. It is also essential if wise use is to be made of the natural possibilities of any given area." And Febvre (3) adds, pp. 76-77, "Geographers are now striving to bring into prominence the initiative and mobility of man. They regard the land as 'powerful agents,' " but as Newbigin (14) in her preface says, the new

geography methods are by some considered objectionable "in that they take too little account of human intelligence and ingenuity, of man's powers to modify his environment and of evading what is sometimes loosely called *geographical control*."

Peattie (6) adds, p. 4, "Changing environment is not so important as the changing state of the culture of people," "The varying effects are not so much the result of the changing of the tools which make the impression as of alterations in the human material upon which the tools place their mark. Peoples react differently to the same influences during different stages of their culture or civilization;" p. 6, "We must study human phenomena as we study a body in motion." Brunhes calls it the "principle of activity." Neither do men always "choose the most favorable climate in which to live."—p. 11.

If one says, "The same conditions have the same results," one must remember that conditions include the human mind and its power both of choice and of adjustment.

Jones and Bryan (18), p. 3, state it thus: "We must finally see man gaining a wider freedom through a fuller knowledge;" and Miller and Parkins (15), p. 31, meet Smith above with the suggestion that "Not all racial stocks produce the same results in the same or similar environment." People and countries have grown up together and modified each other until 'stock' means something. And further, p. 33, "Adjustments are not permanent but changing. Absolutely permanent adjustments will never occur with a progressive people."

METHODS OF EXPRESSING RELATIONS.

If we fall into troubles then in expressing the interrelations of men and places by using such terms as conditions, controls, and determinants or if the terms relation and influence are insufficient, how can we interpret our data? Suggestions here, too, can be obtained from the literature.

Jones (24) clears himself in his preface, p. V, "A portrayal of the various factors and conditions *influencing* the trade expansion of the several republics;" then "Special attention has been given to the physical factors *favoring* or *discouraging* production and movement of a commodity." The direct statement with a relative clause may be used. p. 32, "Possibilities for commercial expansion in South America are great because . . . (7-8 reasons)." p. 33-4, "Exports are mainly raw industrial materials because . . . (4-5 reasons)." Hunt-

ington and Williams (4), p. 98, "Just as the water has advantages over land for transportation, so have plains an advantage over mountains." These *advantages* are also well worked out in Huntington and Cushing (7), pp. 114-15 and 133-34.

Jefferson (16) uses the term advantageous, too, in discussing relations. Pp. 39-40, he raises the question, what *stimulates* one city rather than another to grow to the million size. He illustrates relations also by "transformations that help each people (French and English) to settle into its environment while *shaping* it to its own peculiar characteristics."—p. 6.

Miller and Parkins (15), p. 5, "As population increases, and it increases most rapidly where economic (geographic) *advantages* associated with the lands are most abundant." Again, p. 31, "peoples' *opportunities* depend upon size of area, resources and competition."

Peattie (6) uses advantage, and benefits in places, but he strings along the facts of physical and human elements with no sort of connecting phrases to suggest the nature of the relationship. His work is largely descriptive; p. 78, "Today colonies with modern sanitation can maintain healthful conditions in most places in tropical forests. The well organized permanent settlement has little to fear."

Rocheleau (25) finds a few words in which to express the relationships among which are "*causes*," p. 1, "*make necessary*," p. 4, "*disadvantages*," p. 153, but his ontography is about all he has. He speeds on in an interesting way with facts of human occupation, production, building and commerce with rarely a word of explanation, though he recognizes in his opening pages that there are geographical reasons for differences in population densities and in the supply of things to meet man's needs. It is unfortunate to call such a book 'Geography.' Fairbanks (12) is superior in that it has many facts of both environment and ontography, but it does not make many direct statements of relationship.

Two terms, *adjustment* and *adaptation*, are used some. They may be applied either to man himself or to his processes. The words are used in a similar technical sense by Spalding (26) in his admirable study of two phases of plant geography. "Adaptations to the environment are structural, adjustments are physiological."—p. 140. The plants have made many changes in these two categories to meet the conditions in which they find themselves. Vidal Blache (20), p. 9, quotes Haeckel

as follows: Ecology is the science of "*correlations* between all organisms living together, and their *adaptations* to their surroundings." Since Ecology is plant or animal geography these words have good standing and may well be used in expressing relationships in human geography. To be sure a figurative meaning will be necessary in many cases, though of course they can be used of men exactly as of plants in a limited way.

Peattie (6), p. 13, says, "men learn to adapt themselves to new climates;" and of the English soldier in India, "Here the most careful and clever *adaptation* to climatic environment has taken place;" "the reduction of (alcoholic) drinking is another example of adaptation." Men become physiologically *adjusted* to high altitudes and rare air through generations of living in the high plateaus of Bolivia and Tibet. Smith (9) p. 5, "Politics are largely the attempts of men to *adjust* themselves to industrial and economic factors." Perhaps *adapt* would be the better word here.

While man is adapting and adjusting to the conditions in which he finds himself he is also modifying the conditions. Brunhes' statement of this relationship has been quoted. Woeikof (27) says, "man has control chiefly over movable bodies, particularly the mantle rock, or in places where the mantle is thick. He not only changes the inorganic but the organic." Man's modification of conditions is very striking in his health and sanitation changes in low latitudes and in his modification of the water supply and distribution in arid lands. The term is often used by Marsh (28) even in his title, "The Earth as *modified* by man." A different use of the term is found in Huntington and Cushing (7), p. 11, where we read, "Every religion is *modified* by its surroundings, especially those of its birthplace." 'Colored' would be a much better word here for the relation. Their word would apply to changes made in a religion and its terminology when it is transferred from one kind of a place to another.

This part of the paper would not be complete without special reference to a characteristic of geographic interpretation found in some books—the use of words which qualify the influence, relation or response. Every shade of meaning and degree of response may be found. On two or three pages of Huntington and Cushing (7) the following phrases are found: "Man *responds* to geographic surroundings," "Local circum-

stances *alter* man's *responses* to his higher needs," "Europe's *fortunate* size," "North America *hampered* by size and relief," "*Difficulties* of the farmer in rugged regions," "Seasonal variations *hinder* the use of water power."

Miss Semple (29) uses this list of terms and phrases expressive of geographic relationships all on one page. The Upheaved Carpathian Mountains *divided, diverted, guided, checked*. The Alps *retarded, delayed, obstructed; admitted* invaders, who arrived with *weakened* power, *prolonged the life* of the empire, *facilitated*. River worn valleys *led* to passes, by which traders *crossed*. Today *going* is *easier*, but Alps *collect* toll in higher freight rates, and more coal consumed. Formerly these mountains *barred* the weak and timid. Today they *bar* the poor, and *forbid* transit to all merchandise that cannot pay. Rockies *excluded* all but the strong-limbed and strong-hearted, today *exclude* coal and iron of Colorado from California and *check* the movement of laborers to California, thus *tighten the grip* of labor unions on Pacific coast industries.

Further on, p. 189, large area *misleads* primitive folk, *offers* to advanced people *freest* conditions for their development. A wide territory . . . *affords* most *favorable* conditions. Numerical growth was *rapid*, both by natural increase *reflecting* abundant food, and by accessions *attracted* from the home countries. These examples suggest ways for the careful, thoughtful student to express the relationship without repetition, and with description enough of the relation that the reader can catch its nature.

STRENGTH OF MAN'S ATTACHMENT TO ENVIRONMENT.

On several occasions students have watched the progress of men in their freeing of themselves from the restrictions of environment and have wondered if man would not soon become wholly independent of it. When man overcomes latitude and survives a long, cold journey to the pole by sledge, then boat, dirigible and speedy plane, what more cares he for cold and distance? When he climbs to the top of Mount Everest, what limits do altitude put upon him? When he builds a Panama canal and maintains it with a better health and efficiency schedule than in many parts of the temperate zone, why say he is hampered by the tropics? Isn't he really loosening up all his relations to the environment and even shaking them off?

Perhaps to answer one should go far back in man's history and see how closely he was then related, before coming to final conclusions. Newbigin (14) points out, p. 5, that "in attempting interpretation of past events and historical developments in order to establish correlations between physical and human elements as of ancient dates, there should be a full knowledge of both the conditions and the development." Peattie (6) cautions, p. 10, against broad generalizations and interpretations that go far back where man cannot know. He cites such examples as the effort to explain the sunken neck and high shoulders of the Central Asiatics, the narrow eye slits of the desert people, the dark skins of many peoples within the tropics. It is probably true that we know too little about geographic relations among early races to really answer the question by such comparisons.

May there not be another avenue of approach? Examine Peary or Byrd in his home environment to find what relations he holds to the environment, then examine again on his polar journey and see if he has less relations or more. Note how long he studied and experimented to make enough connections and harmonies, adjustments and modifications to be able to complete his journey.

Count up the relations and contacts with environment that a man in Ohio makes to be able to work in good health, and then note what a wide range of connections and relations the Canal Zone worker has. Not only does he eat and drink, sleep and work there under all the local conditions, but he meets disease with science and medicine brought from elsewhere, reads and thinks in a foreign language and with a foreign outlook, draws a large percent of his food and equipment from distant lands, mines, mills and farms, and even obtains his job and pay from the profits of enterprises thousands of miles away.

It seems probable that every successful man in the temperate zone has closer relations, adjustments and harmonies with his environment than the less successful. The same is true of the nation. If it is true of men in the temperate zone it is to be more and more true of the successful colonizer of the inter-tropic and polar zones.

Before men could fly, their relations with the air were very limited and their knowledge of it was more restricted. Man surely is establishing closer relations with his environment

in his industry, commerce and trade, science, medicine, agriculture, mining and probably every other occupation. Conquests of oceans, lands, air and life continually add to man's relationships. Not until we know all about the earth, air, sky and life will we cease to extend our relationships to our environment.

SUMMARY AND CONCLUSIONS.

While in many general statements it is quite necessary or, to say the least, very convenient to use such undistributed terms as *influence* and *relation* in Geography, it is very desirable to use terms expressing accurately and clearly the nature of the relationship or influence. Such terms should make it clear to the reader that the *relation* is helpful or detrimental, advantageous or otherwise, and further the degree and kind of advantage can usually be stated. The terms control and demand probably should but rarely be used of geographic factors, but in every case geographers can further the cause by using such terms as really convey the quality, nature and extent of the influence.

It is well to recognize the larger and closer contacts man makes with his geographic conditions as he learns the laws operating in his surroundings. Complete knowledge of all geographic conditions, and of all laws governing all conditions, followed by complete adjustment of every man and occupation to every element of these conditions wherever man makes a contact, would put the individual and the race in a most happy and prosperous harmony, and would insure that humanity was making the best use of all parts of the earth.

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DISCUSSION

Miss E. C. Semple made the valued point that environments are of many kinds and belong to many realms, while geographic conditions are always in the field of the geographer. Hence it is more exact and less cumbersome to speak of geographic facts and conditions than to use the longer more general term environmental factors or elements.